

# /VOLUME 10 1992 INDEX

## Table of Contents

### January

- 5 L-Trp's Lesson: The Process is the Product, Douglas McCormick (opinion)
- 7 High Yields Lurk in Low-Temperature Microbes, Bernard Dixon (opinion)
- 8 Crumbling Obstacles to Engineered Bugs, Russ Hoyle (opinion)
- 10 Companies Battle Over Nicotine Patch, Christine Punzo, John Hodgson, Jeffrey L. Fox (news)
- 15 FDA Panel Okays Two Factor VIIIIs, Jeffrey L. Fox (news)
- 16 Patenting IL-6, John Hodgson (news)
- 17 Moving Human Genes, Jeffrey L. Fox (news)
- 18 How to Win Friends (news)
- 21 Ownership First, John Hodgson (news)
- 24 In Hot Pursuit of an HIV Vaccine, B.J. Spalding (article)
- 24 No One Wants AIDS, but Everyone Wants a Slice of HIV, Stephen M. Edgington (article)
- 30 Closing the Culture Gap, Bryan Griffiths (article)
- 36 Identifying Transcribed Sequences: The State of the Art, David M. Kurnit (article)
- 40 Sustaining the Food Supply, Robert Fraley (article)
- 44 Fishing for Microbes, David Pramer (article)
- 47 Biotechnology: Feeding the World?, John Hodgson (article)
- 52 Are Isolated Genes "Useful?", Patrick D. Kelly (article)
- 60 Surface-Active Compounds from Microorganisms, George Georgiou, Sung-Chyr Lin, Mukul M. Sharma (review)
- 66 Production and Functional Characterization of a Recombinant Fragment of von Willebrand Factor (vWF): An Antagonist to Platelet Receptor GP Ib, Christopher Prior, Valeria Chu, John Holt, Vincent Windisch, Ted Lee, Jon Mitschelen, Jack Newman, George Ricca, Criss Tarr, Michael Hrinda (research)
- 74 Production of Cystic Fibrosis Transmembrane Conductance Regulator in the Milk of Transgenic Mice, Paul DiTullio, Seng H. Cheng, John Marshall, Richard J. Gregory, Karl M. Ebert, Harry M. Meade, Alan E. Smith (research)
- 78 High Speed Automated DNA Sequencing in Ultrathin Slab Gels, Anthony J. Kostichka, Michael L. Marchbanks, Robert L. Brumley, Jr., Howard Grossman, Lloyd M. Smith (research)
- 82 *Saccharomyces cerevisiae* Cells Secreting an *Aspergillus niger* Beta-Galactosidase Grow on Whey Permeate, Vijay Kumar, Sundaram Ramakrishnan, Tuula T. Teeri, Jonathan K. C. Knowles, Brian S. Hartley (research)
- 86 Antibody Assisted Protein Refolding, James D. Carlson, Martin L. Yarmush (research)
- 94 Research Assays and Diagnostic Kits (product page)
- 104 The Freedom to Know and the Right to Decide, John H. Barton (opinion)
- 129 Biosensors Galore, Stuart M. Dambrot (news)
- 132 Genes in a Bottle, Mimi Bluestone (article)
- 137 PCR: Catching the Next Wave, Stephen M. Edgington (article)
- 141 Selectable Markers Gene: Safe for Plants?, Richard B. Flavell, Ed Dart, Roy L. Fuchs, Robert T. Fraley (article)
- 146 Hypertexting through the Regulations, John Hodgson (article)
- 147 Putting the BST Human-Health Controversy to Rest, Henry I. Miller (article)
- 148 BST & the EEC: Politics vs. Science, William Vandaele (article)
- 152 Signal Transduction: Untangling its Golden Promise, Stephen M. Edgington (article)
- 157 Rational Immunotherapy with Interleukin 2, Gill Kaplan, Zanvil A. Cohn, Kendall A. Smith (review)
- 163 High-Level *Escherichia coli* Expression and Production of a Bivalent Humanized Antibody Fragment, Paul Carter, Robert F. Kelley, Maria L. Rodrigues, Brad Sanderson, Michael Covarrubias, Mark D. Velligan, Wai Lee T. Wong, Ann M. Rowland, Claire E. Kotts, Monique E. Carver, Maria Yang, James H. Bourell, Michael H. Shepard, Dennis Henner (research)
- 169 High-Level Expression of a Recombinant Antibody from Myeloma Cells Using a Glutamin Synthetase Gene as an Amplifiable Selectable Marker, C.R. Bebbington, G. Renner, S. Thomson, D. King, D. Abrams, G.T. Yarranton (research)
- 176 Growth Enhancement in Transgenic Atlantic Salmon by the Use of an "All Fish" Chimeric Growth Hormone Gene Construct, Shao Jun Du, Zhiyuan Gong, Garth L. Fletcher, Margaret A. Shears, Madonna J. King, David R. Idler, Choy L. Hew (research)
- 182 High-Resolution Removal of Virus from Protein Solutions Using a Membrane of Unique Structure, Anthony J. DiLeo, Anthony E. Allegrezza Jr., Stuart E. Builder (research)
- 190 Expression of Cloned Homologous Fermentative Genes in *Clostridium acetobutylicum* ATCC824, Lee D. Mermelstein, Neil E. Welker, George N. Bennett, Eleftherios T. Papoutsakis (research)
- 196 Autolytic *Lactococcus lactis* Expressing a Lactococcal Bacteriophage Lysin Gene, Claire A. Shearman, Karen Jury, Michael J. Gasson (research)
- 201 PCR and Other Amplification Techniques (product page)
- 216 The Reality of Controversy, Jay D. Hair (opinion)

### March

- 221 Applause for the Straw Man, Douglas McCormick (opinion)
- 223 Haphazard Measures: Cholera or Chlorination?, Bernard Dixon (opinion)
- 224 Rival Stock Indexes for Biotech, Christine Punzo (news)
- 230 U.S. Budget Boosts Biotechnology, Jeffrey L. Fox (news)
- 234 Immunex Swaps Cancer Drugs, B.J. Spalding (news)
- 236 Roche Frees PCR for Clinical Tests, Mimi Bluestone (news)
- 238 39 IPOs Raise \$1.2 Billion, B.J. Spalding (news)
- 240 Neuroscience Wins Big, B.J. Spalding (news)
- 242 Biotechnology: What Now?, Denise Gilbert, Ph.D. (news)
- 243 FDA Panel Nixes Ethylol, Jeffrey L. Fox (news)
- 244 FDA Okays Chiron's IL-2, Jeffrey L. Fox (news)
- 246 Immunoconjugate Logjam Ends, Mimi Bluestone (news)
- 248 Creating Uncertainty and Delay, Russ Hoyle (news)
- 249 Pathway Analysis in Plant Cells, Harvey Bialy (news)
- 250 The Hard Reality, John Hodgson (news)
- 251 New-Food Rules, John Hodgson (news)
- 253 Biocins Rescues Scavo, Angiola Bono (news)
- 254 Thanks for the Memories, Bono Angiola, Stuart M. Dambrot (news)
- 256 Ribozymes: Stop Making Sense, Stephen M. Edgington (article)

# /VOLUME 10 1992 INDEX

## Table of Contents

### January

- 5 L-Trp's Lesson: The Process is the Product, Douglas McCormick (opinion)
- 7 High Yields Lurk in Low-Temperature Microbes, Bernard Dixon (opinion)
- 8 Crumbling Obstacles to Engineered Bugs, Russ Hoyle (opinion)
- 10 Companies Battle Over Nicotine Patch, Christine Punzo, John Hodgson, Jeffrey L. Fox (news)
- 15 FDA Panel Okays Two Factor VIIIIs, Jeffrey L. Fox (news)
- 16 Patenting IL-6, John Hodgson (news)
- 17 Moving Human Genes, Jeffrey L. Fox (news)
- 18 How to Win Friends (news)
- 21 Ownership First, John Hodgson (news)
- 24 In Hot Pursuit of an HIV Vaccine, B.J. Spalding (article)
- 24 No One Wants AIDS, but Everyone Wants a Slice of HIV, Stephen M. Edgington (article)
- 30 Closing the Culture Gap, Bryan Griffiths (article)
- 36 Identifying Transcribed Sequences: The State of the Art, David M. Kurnit (article)
- 40 Sustaining the Food Supply, Robert Fraley (article)
- 44 Fishing for Microbes, David Pramer (article)
- 47 Biotechnology: Feeding the World?, John Hodgson (article)
- 52 Are Isolated Genes "Useful?", Patrick D. Kelly (article)
- 60 Surface-Active Compounds from Microorganisms, George Georgiou, Sung-Chyr Lin, Mukul M. Sharma (review)
- 66 Production and Functional Characterization of a Recombinant Fragment of von Willebrand Factor (vWF): An Antagonist to Platelet Receptor GP Ib, Christopher Prior, Valeria Chu, John Holt, Vincent Windisch, Ted Lee, Jon Mitschelen, Jack Newman, George Ricca, Criss Tarr, Michael Hrinda (research)
- 74 Production of Cystic Fibrosis Transmembrane Conductance Regulator in the Milk of Transgenic Mice, Paul DiTullio, Seng H. Cheng, John Marshall, Richard J. Gregory, Karl M. Ebert, Harry M. Meade, Alan E. Smith (research)
- 78 High Speed Automated DNA Sequencing in Ultrathin Slab Gels, Anthony J. Kostichka, Michael L. Marchbanks, Robert L. Brumley, Jr., Howard Grossman, Lloyd M. Smith (research)
- 82 *Saccharomyces cerevisiae* Cells Secreting an *Aspergillus niger* Beta-Galactosidase Grow on Whey Permeate, Vijay Kumar, Sundaram Ramakrishnan, Tuula T. Teeri, Jonathan K. C. Knowles, Brian S. Hartley (research)
- 86 Antibody Assisted Protein Refolding, James D. Carlson, Martin L. Yarmush (research)
- 94 Research Assays and Diagnostic Kits (product page)
- 104 The Freedom to Know and the Right to Decide, John H. Barton (opinion)
- 129 Biosensors Galore, Stuart M. Dambrot (news)
- 132 Genes in a Bottle, Mimi Bluestone (article)
- 137 PCR: Catching the Next Wave, Stephen M. Edgington (article)
- 141 Selectable Markers Gene: Safe for Plants?, Richard B. Flavell, Ed Dart, Roy L. Fuchs, Robert T. Fraley (article)
- 146 Hypertexting through the Regulations, John Hodgson (article)
- 147 Putting the BST Human-Health Controversy to Rest, Henry I. Miller (article)
- 148 BST & the EEC: Politics vs. Science, William Vandaele (article)
- 152 Signal Transduction: Untangling its Golden Promise, Stephen M. Edgington (article)
- 157 Rational Immunotherapy with Interleukin 2, Gill Kaplan, Zanvil A. Cohn, Kendall A. Smith (review)
- 163 High-Level *Escherichia coli* Expression and Production of a Bivalent Humanized Antibody Fragment, Paul Carter, Robert F. Kelley, Maria L. Rodrigues, Brad Sndecor, Michael Covarrubias, Mark D. Velligan, Wai Lee T. Wong, Ann M. Rowland, Claire E. Kotts, Monique E. Carver, Maria Yang, James H. Bourell, Michael H. Shepard, Dennis Henner (research)
- 169 High-Level Expression of a Recombinant Antibody from Myeloma Cells Using a Glutamin Synthetase Gene as an Amplifiable Selectable Marker, C.R. Bebbington, G. Renner, S. Thomson, D. King, D. Abrams, G.T. Yarranton (research)
- 176 Growth Enhancement in Transgenic Atlantic Salmon by the Use of an "All Fish" Chimeric Growth Hormone Gene Construct, Shao Jun Du, Zhiyuan Gong, Garth L. Fletcher, Margaret A. Shears, Madonna J. King, David R. Idler, Choy L. Hew (research)
- 182 High-Resolution Removal of Virus from Protein Solutions Using a Membrane of Unique Structure, Anthony J. DiLeo, Anthony E. Allegrezza Jr., Stuart E. Builder (research)
- 190 Expression of Cloned Homologous Fermentative Genes in *Clostridium acetobutylicum* ATCC824, Lee D. Mermelstein, Neil E. Welker, George N. Bennett, Eleftherios T. Papoutsakis (research)
- 196 Autolytic *Lactococcus lactis* Expressing a Lactococcal Bacteriophage Lysin Gene, Claire A. Shearman, Karen Jury, Michael J. Gasson (research)
- 201 PCR and Other Amplification Techniques (product page)
- 216 The Reality of Controversy, Jay D. Hair (opinion)

### March

- 221 Applause for the Straw Man, Douglas McCormick (opinion)
- 223 Haphazard Measures: Cholera or Chlorination?, Bernard Dixon (opinion)
- 224 Rival Stock Indexes for Biotech, Christine Punzo (news)
- 230 U.S. Budget Boosts Biotechnology, Jeffrey L. Fox (news)
- 234 Immunex Swaps Cancer Drugs, B.J. Spalding (news)
- 236 Roche Frees PCR for Clinical Tests, Mimi Bluestone (news)
- 238 39 IPOs Raise \$1.2 Billion, B.J. Spalding (news)
- 240 Neuroscience Wins Big, B.J. Spalding (news)
- 242 Biotechnology: What Now?, Denise Gilbert, Ph.D. (news)
- 243 FDA Panel Nixes Ethylol, Jeffrey L. Fox (news)
- 244 FDA Okays Chiron's IL-2, Jeffrey L. Fox (news)
- 246 Immunoconjugate Logjam Ends, Mimi Bluestone (news)
- 248 Creating Uncertainty and Delay, Russ Hoyle (news)
- 249 Pathway Analysis in Plant Cells, Harvey Bialy (news)
- 250 The Hard Reality, John Hodgson (news)
- 251 New-Food Rules, John Hodgson (news)
- 253 Biocins Rescues Scavo, Angiola Bono (news)
- 254 Thanks for the Memories, Bono Angiola, Stuart M. Dambrot (news)
- 256 Ribozymes: Stop Making Sense, Stephen M. Edgington (article)

# /VOLUME 10 1992 INDEX

<p>264 Sepsis Shock: What do Physicians Want?, Cynthia J. Schmeichel (article)</p> <p>269 Conquering Multidrug Resistance in Cancer Chemotherapy, Stephen M. Edgington (article)</p> <p>271 <i>Bacillus thuringiensis</i>: Insects and Beyond, Jerald S. Feitelson, Jewel Payne, Leo Kim (article)</p> <p>277 Shifting Gear in Carbohydrate Analysis, Mike Geisow (article)</p> <p>281 Venture Capital from the Ground Floor, Al Middleton (article)</p> <p>286 Transformation of Microbes, Plants and Animals by Particle Bombardment, Theodore M. Klein, Rene Arentzen, Paul A. Lewis, Sandra Fitzpatrick-McElligott (review)</p> <p>292 Production of Active <i>Bacillus licheniformis</i> Alpha-Amylase in Tobacco and its Application in Starch Liquefaction, Jan Pen, Lucy Molendijk, Wim J. Quax, Peter C. Sijmons, Albert J. J. van Ooyen, Peter J. M. van den Elzen, Krijn Rietveld, Andre Hoekema (research)</p> <p>297 Optimizing Nucleotide Mixtures to Encode Specific Subsets of Amino Acids for Semi-Random Mutagenesis, Adam P. Arkin, Douglas C. Youvan (research)</p> <p>301 DnaK-Mediated Alterations in Human Growth Hormone Protein Inclusion Bodies, Paul Blum, Mark Velligan, Norman Lin, Abdul Matin (research)</p> <p>305 Expression of a Barley Ribosome-Inactivating Protein Leads to Increased Fungal Protection in Transgenic Tobacco Plants, J. Logemann, G. Jach, H. Tommerup, J. Mundy, J. Schell (research)</p> <p>309 Transformation of Sugarbeet (<i>Beta vulgaris</i> L.) and Evaluation of Herbicide Resistance in Transgenic Plants, Kathleen D'Halluin, Martien Bossut, Els Bonne, Barbara Mazur, Jan Leemans, Johan Boterman (research)</p> <p>315 Production and Biological Activity of Hybrid Growth Hormone-Releasing Hormone Peptides, Dennis P. Smith, Mark L. Heiman,</p>	<p>Jack F. Wagner, Richard L. Jackson, Richard A. Bimm, Hansen M. Hsiung (research)</p> <p>320 Carbohydrate Analysis (product page)</p> <p><b>April</b></p> <p>341 More Scope, More Muscle, Douglas McCormick (opinion)</p> <p>343 Covert Activities, Bernard Dixon (opinion)</p> <p>344 FDA Adds 50 Biotech Reviewers, Christine Punzo (news)</p> <p>354 Nine Biotech Firms Turn Profits, B.J. Spalding, Bruce Shriner, Jr. (news)</p> <p>358 Biotech Regulatory "Scope" Set, Jeffrey L. Fox (news)</p> <p>360 NIH Drafts Strategic Plan, Jeffrey L. Fox (news)</p> <p>362 CSFs Celebrate Successful Debut, B.J. Spalding (news)</p> <p>363 An IPO by BBG Looks Imminent, Ifeanyi Uwechue (news)</p> <p>364 Investors Rotate out of Biotech, Jeffrey Casdin (news)</p> <p>364 Risking FDA, Competition, Jeffrey Casdin (news)</p> <p>368 RAC Advances Ex-Vivo Gene Therapy, Mimi Bluestone (news)</p> <p>368 Different Approaches, Mimi Bluestone (news)</p> <p>369 RAC Okays In-Vivo Gene Therapy, Stephen M. Edgington (news)</p> <p>369 Product or Service?, Mimi Bluestone (news)</p> <p>370 Thanks for the Memories, Stuart M. Dambrot (news)</p> <p>370 U.S. Budget Surprises, B.J. Spalding (news)</p> <p>372 Jitters about U.S. Research Competitiveness, Russ Hoyle (news)</p> <p>374 Trolling for Transcription Factors, Stephen M. Edgington (news)</p> <p>376 New Key to Protein Processing?, Stephen M. Edgington (news)</p> <p>378 Drug and Pesticide from Paw-Paw, Julia Schulhof (news)</p> <p>378 Blue Collars Needed, Jennifer Van Brunt (news)</p> <p>383 How Sweet It Is: Selectin-Mediating Drugs, Stephen M. Edgington (article)</p> <p>390 Interactions in the Fourth Dimension, Russ Granzow, Robert Reed (article)</p> <p>391 Validating the Preparation of Clinical Monoclonal An-</p> <p>tibodies, Massimo Mariani, Laura Tarditi (article)</p> <p>399 Electrophoresis in Thin Air, John Hodgson (article)</p> <p>402 Agenda 21: Biotechnology at The United Nations Conference on Environment and Development, Adolfo R. Tayhardt, Raymond A. Zilinskas (article)</p> <p>405 Ribosome-Inactivating Proteins from Plants: Present Status and Future Prospects, Fiorenzo Stirpe, Luigi Barbieri, Maria Giulia Battelli, Marco Soria, Douglas A. Lappi (review)</p> <p>413 Simultaneous Amplification and Detection of Specific DNA Sequences, Russell Higuchi, Gavin Dollinger, P. Sean Walsh, Robert Griffith (research)</p> <p>418 Expansion of Insecticidal Host Range of <i>Bacillus thuringiensis</i> by In Vivo Genetic Recombination, Dider Lereclus, Myriam Vallade, Josephe Chaufaux, Olivia Arantes, Sophie Rambaud (research)</p> <p>422 Increased Resistance to Potato Virus X and Preservation of Cultivar Properties in Transgenic Potato Under Field Conditions, Erik Jongedijk, Antoon A. J. M. de Schutter, Ton Stolte, Peter J. M. van den Elzen, Ben J. C. Cornelissen (research)</p> <p>430 Antigen Responsive Antibody-Receptor Kinase Chimera, Hiroshi Ueda, Masako Kikuchi, Shintaro Yagi, Hajime Nishimura (research)</p> <p>435 Cysteine to Serine Substitutions in Basic Fibroblast Growth Factor: Effect on Inclusion Body Formation and Proteolytic Susceptibility During In Vitro Refolding, Ursula Rinas, Larry B. Tsai, David Lyons, Gary M. Fox, George Stearns, John Fieschko, Dennis Fenton, James E. Bailey (research)</p> <p>442 Monoclonal Antibodies can Protect L. Asparaginase Against Inactivation by Trypsin, M. Ramjeesingh, M. Zywulko, A. Rothstein, E. Y. Shami (research)</p> <p>464 Interactions in the Fourth Dimension, Russ Granzow, Robert Reed (article)</p> <p>391 Validating the Preparation of Clinical Monoclonal An-</p>	<p><b>May</b></p> <p>469 The Stocks on the Village Green, Douglas McCormick (opinion)</p> <p>471 Res Media, Bernard Dixon (opinion)</p> <p>472 Immunex Sues Hoechst Over GM-CSF, Christine Punzo, John Hodgson (news)</p> <p>478 Commercializing Genome Research, Mimi Bluestone (news)</p> <p>480 t-PA Falls Short Once Again, Mimi Bluestone (news)</p> <p>481 37 Biotech Firms Raise \$1.3 Billion, B.J. Spalding (news)</p> <p>484 Biotech Boosts Venture Capital, B.J. Spalding (news)</p> <p>487 Seeking Sugar Daddy, John Hodgson (news)</p> <p>488 Primer on FDA Approvals, R. Brandon Fradd (news)</p> <p>492 USDA Snarls at Transgenic Catfish, Jeffrey L. Fox (news)</p> <p>492 ABRAc Still Seeking a Niche, Jeffrey L. Fox (news)</p> <p>494 Europe's First Gene Therapy, Angiola Bono (news)</p> <p>495 Japan Cools Biotech Spending, Stuart M. Dambrot (news)</p> <p>496 "Streetlighting" the Alaska Oil Spill, Russ Hoyle (news)</p> <p>497 First Agbiotech Profit, B.J. Spalding, Bruce Shriner, Jr. (news)</p> <p>498 Transgenic Pharming Advances, B.J. Spalding (news)</p> <p>502 Bauhaus Biology: Biotechnology and the Common Cold, Stephen M. Edgington (article)</p> <p>509 Sheding Light on Peptide Synthesis, John Mark Carter, Steve Van Albert, Jaime Lee, Jeff Lyon, Carolyn Deal (article)</p> <p>515 Sensors for a Clean Environment, William Bains (article)</p> <p>521 Biopharmaceuticals and Conventional Drugs: Clinical Success Rates, Brigitta Bienz-Tadmor, Patricia A. DiCerbo, Gilead Tadmor, Louis Lasagna (article)</p> <p>528 International Strategic Alliances, Richard A. Schwartz, Mark D. Dibner (article)</p> <p>529 International R &amp; D Is the Rule, Cynthia K. Wagner (article)</p>
---	---	--

## /VOLUME 10 1992 INDEX

<p>534 Modifying the Mouse: Design and Desire, Allan Bradley, Paul Hasty, Ann Davis, Ramiro Ramirez-Solis (review)</p> <p>540 Chemical Regulation of <i>Bacillus thuringiensis</i> delta-Endotoxin Expression in Transgenic Plants, Sherica Williams, Leslie Friedrich, Sandra Dinchler, Nadine Carozzi, Helmut Kessmann, Eric Ward, John Ryals (research)</p> <p>545 Expression of a Paralytic Neurotoxin Gene to Improve Insect Baculoviruses as Biopesticides, Michael D. Tomalski, Lois K. Miller (research)</p> <p>550 A Novel Strategy for Secreting Proteins: Use of Phosphatidylinositol-Glycan-Specific Phospholipase D to Release Chimeric Phosphatidylinositol-Glycan Anchored Proteins, Bernard J. Scallion, Helen Kado-Fong, Mignon Y. Nettleton, Jarema P. Kochan (research)</p> <p>557 Production of Functional Human Hemoglobin in Transgenic Swine, Mark E. Swanson, Michael J. Martin, J. Kevin O'Connell, Kathy Hoover, William Lago, Victoria Huntress, Cynthia T. Parsons, Carl A. Pinkert, Stephen Pilder, John S. Logan (research)</p> <p>561 Production of the Sweet Protein Monellin in Transgenic Plants, Lola Penarrubia, Rosalind Kim, James Giovannoni, Sung-Hou Kim, Robert L. Fischer (research)</p> <p>565 A Sensitive Model System for In Vivo Monitoring of Baculovirus Gene Expression in Single Infected Insect Cells, Matti Karp, Karl Akerman, Christer Lindqvist, Ari Kuusisto, Petri Saviranta, Christian Oker-Bloom (research)</p> <p>570 Stabilization of <i>Streptomyces lividans</i> by Homologous Recombination Insertion, Peter Kaiser, Fiona Flett, John Cullum (research)</p> <p>574 Peptide Products (product page)</p> <p>600 NIH Gene Patents: A Solid Foundation for the Industry, Kurt A. MacLean (opinion)</p>	<p><b>June</b></p> <p>605 Manufacturing Plants, Douglas McCormick (opinion)</p> <p>607 The Buzz About, Bernard Dixon (opinion)</p> <p>609 Scios Buys Nova, Chris Punzo, John Hodgson (news)</p> <p>616 FDA Setback Flattens Centocor, B.J. Spalding (news)</p> <p>617 What Went Wrong With Centoxin, Stephen M. Edgington (news)</p> <p>620 In-Licensing Traditional Drugs, B.J. Spalding (news)</p> <p>622 Unit Offerings Raise \$343 Million, B.J. Spalding (news)</p> <p>623 Disappointing First Quarter, Denise Gilbert, Ph.D. (news)</p> <p>624 FDA Enacts Faster Drug Review, Jeffrey L. Fox (news)</p> <p>625 NAS Probes DNA Finger printing, Jeffrey L. Fox (news)</p> <p>626 Influencing (Political) Reality Syndrome, Jeffrey L. Fox (news)</p> <p>627 Swiss Pass Biotech Referendum, John Hodgson (news)</p> <p>628 Genetic-Testing Law Stirs Debate, Thomas Breck (news)</p> <p>629 Eating Biotechnology, Russ Hoyle (news)</p> <p>630 Transgenic Wheat Finally Produced, Harvey Bialy (news)</p> <p>630 Unsound Biofuels?, Thomas Breck (news)</p> <p>632 High-Performance Computers, Stuart M. Dambrot (news)</p> <p>633 Mixed Results for Targeted Toxins, Angiola Bono (news)</p> <p>635 Large-Scale &amp; High-Throughput Perfusion Chromatography, Scott P. Fulton, Ahmad J. Shahidi, Neal F. Gordon, Noubar B. Afeyan (article)</p> <p>641 Teaching Self-Tolerance: Biotech Autoimmune Therapies, Stephen M. Edgington (article)</p> <p>647 Biotechnology and Economic Development: The Winning Formula, G. Steven Burrill, Wendy J. Roberts (article)</p> <p>654 The First of the Big Spenders, John Hodgson (article)</p>	<p>660 An Affinity for Chemistry, Louis Lasagna (book review)</p> <p>661 Runaway-Replication Plasmids as Tools to Produce Large Quantities of Proteins from Cloned Genes in Bacteria, Kurt Nordstrom, Bernt Eric Uhlin (review)</p> <p>667 Herbicide-Resistant Fertile Transgenic Wheat Plants Obtained by Microprojectile Bombardment of Regenerable Embryogenic Callus, Vimla Vasil, Ana M. Castillo, Michael E. Fromm, Indra K. Vasil (research)</p> <p>675 Fatty-Acid Alteration by a Delta-9 Desaturase in Transgenic Tobacco Tissue, W.S. Grayburn, G.B. Collins, D.F. Hildebrand (research)</p> <p>679 Functional Expression of GABA<sub>A</sub> Chloride Channels and Benzodiazepine Binding Sites in Baculovirus-Infected Insect Cells, D.B. Carter, D.R. Thomsen, W.B. Im, D.J. Lennon, D.M. Ngo, W. Gale, H.K. Im, P.H. Seeburg, M.W. Smith (research)</p> <p>682 Renaturation of a Single-Chain Immunotoxin Facilitated by Chaperones and Protein Disulfide Isomerase, Johannes Buchner, Ulrich Brinkmann, Ira Pastan (research)</p> <p>686 Single-Tree Genetic Linkage Mapping in Conifers Using Haplid DNA from Meggametophytes, Lomas K. Tulsieram, Jeffrey C. Glaubitz, Gyula Kiss, John E. Carlson (research)</p> <p>691 Transgenic Plants of Tall Fescue (<i>Festuca arundinacea Schreb.</i>) Obtained by Direct Gene Transfer to Protoplasts, Zeng-yu Wang, Tadashi Takamizo, Victor A. glesias, Martin Osusky, Jutta Nagel, Ingo Potrykus, German Spangenberg (research)</p> <p>697 Kinetic Analysis of Recombinant Antibody-Antigen Interactions: Relation Between Structural Domains and Antigen Binding, Carl A.K. Borrebaek, Ann-Christin Malmborg, Christina</p>	<p>Furebring, Anne Michaelsson, Sally Ward, Lena Danielsson, Mats Ohlin (research)</p> <p>702 Autoimmune Disease Products (product page)</p> <p>712 Bringing Up Baby, Michael Du Cros (opinion)</p> <p><b>July</b></p> <p>717 Letting Consumers Choose, Douglas McCormick (opinion)</p> <p>719 An Ounce of Prevention, Bernard Dixon (opinion)</p> <p>721 FDA Nixes Xoma's Sepsis Antibody, Christine Punzo, John Hodgson (news)</p> <p>728 R &amp; D Spending Soars 62.7 Percent, B.J. Spalding, Bruce Shriver, Jr. (news)</p> <p>732 Three-Way Battle in Liposomes, Mimi Bluestone (news)</p> <p>734 Farming Our Clinical Trials, B.J. Spalding (news)</p> <p>736 Mixed Reviews for Scios-Nova, B.J. Spalding (news)</p> <p>736 Technology Transfer, John Hodgson (news)</p> <p>738 Centocor Fallout, Jeffrey Casdin (news)</p> <p>740 FDA Dishes Up Food Policy, Jeffrey L. Fox (news)</p> <p>740 DNA Patent Dispute Rages On, Jeffrey L. Fox (news)</p> <p>742 The Leak That Wasn't, Russ Hoyle (news)</p> <p>744 Reorienting U.S.-Japan Balance, Jeffrey L. Fox (news)</p> <p>744 Uneven Info Flow, Stuart M. Dambrot (news)</p> <p>745 Secret to Agbiotech, Jennifer Van Brunt (news)</p> <p>748 The Battle of Engineered Tomatoes, Jennifer Van Brunt (news)</p> <p>751 Sequence--So What?, William Bains (article)</p> <p>757 Setting a Sequence to Sequence a Sequence, William Bains (article)</p> <p>760 Sequencing and Mapping Effects in "Model Organisms", John Hodgson (article)</p> <p>760 Yeast Chromosome III Poster</p> <p>763 Biotech Vaccines' Problematic Promise, Stephen M. Edgington (article)</p> <p>768 Is An AIDS Vaccine Possible?, Stephen M. Edgington (article)</p> <p>772 The Hermeneutics of DNA, Michael Cook (book review)</p>
--	--	---	--

# /VOLUME 10 1992 INDEX

- 773 Loops and Secondary Structure Mimetics: Development and Applications in Basic Science and Rational Drug Design, H. Uri Saragovi, Mark I. Greene, R. A. Chrusciel, Michael Kahn (review)
- 779 By-Passing Immunization: Building High-Affinity Human Antibodies by Chain Shuffling, James D. Marks, Andrew D. Griffiths, Magnus Malmqvist, Tim P. Clackson, Jacqueline M. Bye, Greg Winter (research)
- 784 Production of Biologically Active Recombinant Human Lactoferrin in *Aspergillus oryzae*, Pauline Ward, Jing-Y. Lo, Mairead Duke, Gregory S. May, Denis R. Headon, Orla M. Conneely (research)
- P. Synthesis of a Functional Anti-Phytochrome Single-Chain F<sub>v</sub> Protein in Transgenic Tobacco, Meran Owen, Atul Gandeche, Bill Cockburn, Garry Whitelam (research)
- 790 Single-Step Purification on DEAE-Sephadex of Recombinant Polypeptides Produced in *Escherichia coli*, Sagrario Ortega, Jose L. Garcia, Mercedes Zazo, Javier Varela, Isabel Munoz-Willyer, Pedro Cuevas, Guillermo Gimenez-Gallego (research)
- 799 Sequence-Specific Cleavage of Protein Fusions Using a Recombinant *Neisseria* Type 2 IgA Protease, Johannes Pohlner, Thomas Klauser, Elke Kuttler, Roman Halter (research)
- 805 Sex Determination of Bovine Embryos by Restriction Fragment Polymorphisms of PCR-Amplified ZFX/ZFY Loci, Guido D. Pollevick, Susana Giambiagi, Sabrina Mancardi, Leonardo De Luca, Oscar Burrone, Alberto C.C. Frasch, Rodolfo A. Ugalde (research)
- 808 Gene Sequencing Products (product page)
- 824 On Banning the Use of Human Fetal Tissue, Leonard Hayflick (opinion)
- August**
- 829 Frankenfood ... or Frank Discussion?, Douglas McCormick (opinion)
- 833 Middle Earth, Bernard Dixon (opinion)
- 835 Slew of Strategic Alliances, Christine Punzo (news)
- 840 Opposite Outcomes for AIDS Trials, Jeffrey L. Fox (news)
- 842 Setbacks Send Xoma South, B.J. Spalding (news)
- 842 Wholesaler's Role in Biotech, Mimi Bluestone (news)
- 843 Record Financing Window Closing, B.J. Spalding (news)
- 846 Investing in Early-Stage Stocks, David Webber (news)
- 847 Conflict of Interest?, Jeffrey L. Fox (news)
- 848 Deep-Sixing Biodiversity, Russ Hoyle (news)
- 850 Agbiotech R&D Rises 5 Percent, B.J. Spalding (news)
- 852 Fishing for Genes, Jennifer Van Brunt (news)
- 855 3-D Biotech: Tissue Engineering, Stephen M. Edgington (article)
- 863 Whole Animals for Wholesome Protein Production, John Hodgson (article)
- 867 An Appetite for Technology: Hoffmann-LaRoche, John Hodgson (article)
- 870 Up to Code: Validating a Chromatography System, Sanford Weinberg, Janie Spelton, Phillip Sax, Gail Sofer (article)
- 873 The Art of Social Bioengineering, Jaap Bosveld, Rene van der Kwaak (article)
- 882 Therapeutic Applications of Oligonucleotides, Stanley T. Crooke (review)
- 888 Use of the *nirB* Promoter to Direct the Stable Expression of Heterologous Antigens in *Salmonella* Oral Vaccine Strains: Development of a Single-Dose Oral Tetanus Vaccine, S.N. Chatfield, I.G. Charles, A.J. Makoff, M.D. Oxer, G. Dougan, D. Pickard, D. Slater, N.F. Fairweather (research)
- 894 Metabolic Engineering of *Candida tropicalis* for the Production of Long-Chain Dicarboxylic Acids,
- Stephen Picataggio, Tracy Rohrer, Kristine Deanda, Dawn Lanning, Robert Reynolds, Jonathan Mielenz, L. Dudley Eirich (research)
- 900 A Universal Expression-Purification System Based on the Coiled-Coil Interaction of Myosin Heavy Chain, Vera Wolber, Kayo Maeda, Renate Schumann, Birgit Brandmeier, Lisa Wiesmuller, Alfred Wittinghofer (research)
- 905 Expression of a Bacterial Phaselotoxin-Resistant Ornithyl Transcarbamylase in Transgenic Tobacco Confers Resistance to *Pseudomonas syringae* pv. *Phaseolicola*, Juan Manuel de la Fuente-Martinez, Gilberto Mosqueda-Cano, Ariel Alvarez-Morales, Luis Herrera-Estrella (research)
- 910 Antibody Production in Silkworm Cells and Silkworm Larvae Infected with a Dual Recombinant *Bombyx mori* Nuclear Polyhedrosis Virus, Ulrich Reis, Barbara Blum, Bernd-Ulrich von Specht, Horst Domdey, John Collins (research)
- 916 Filtration Products (product page)
- 928 The Chain Gang, Mark D. Dibner (opinion)
- September**
- 935 Usable Users' Fees, Douglas McCormick (opinion)
- 939 Morals, Ethics, and Biotechnology, Bernard Dixon (opinion)
- 940 FDA User Fees Gain Momentum, Christine Punzo (news)
- 946 Hope and Hype in Biotech, Mimi Bluestone (news)
- 950 Few Firms Pursue Anti-IDs, B.J. Spalding (news)
- 951 Institutions Increase Ownership, B.J. Spalding (news)
- 952 ICI Spins Off Biotech Unit, Mike Ward (news)
- 952 ICI's Biotech Efforts, Mike Ward (news)
- 952 The Perfect Food, Stuart M. Dambrot (news)
- 954 Weak Second Quarter, Denise Gilbert, Ph.D. (news)
- 956 Science Stars Try New Orbita, Jennifer Van Brunt (news)
- 956 Patenting Human Genes, Gary Moss, Simon Cohen (news)
- 958 FDA's Slippery Food Policy, Russ Hoyle (news)
- 959 EC Shake-Up, Declan Butler (news)
- 960 Minnesota Rules Stir Debate, Jeffrey L. Fox (news)
- 960 Potential Problems, Jeffrey L. Fox (news)
- 962 FDA Continues to Favor Biotech, Jeffrey L. Fox (news)
- 963 *BioTechnology* Compensation Survey: The Bottom Line for 1992, Douglas McCormick, Christine Punzo (article)
- 967 Revising Oversight of Genetically Modified Plants, Susanne L. Huttner, Charles Arntzen, Roger Beachy, George Breuning, Laura De Francesco, Eugene Nester, Calvin Qualset, Anne Vidaver (article)
- 973 Receptor Screening and the Search for New Pharmaceuticals, John Hodgson (article)
- 981 Angiogenic and Angiostatic Drugs: Reshaping Biotech's Future, Stephen M. Edgington (article)
- 993 DNA and RNA Drug Therapeutics: Unsolved Riddles, Stephen M. Edgington (article)
- 997 Elective Affinities: The Art of Chromatography, John Hodgson (article)
- 1002 Genetic Approaches to Protein Structure and Function: Point Mutations as Modifiers of Protein Function, Dan Medynski (review)
- 1007 Extraordinary Stability of Enzymes Dried in Trehalose: Simplified Molecular Biology, Camilo Colaco, Shevanti Sen, Madan Thangavelu, Stephen Pinder, Bruce Rose (research)
- 1013 Polyethylene Glycol Enhanced Protein Refolding, Jeffrey L. Cleland, Stuart E. Builder, James R. Swartz, Marjorie Winkler, Judy Y. Chang, Daniel I.C. Wang (research)
- 1020 Heterologous Encapsulation of Potato Virus Y Strain O (PVY<sup>O</sup>) with the Transgenic Coat

# /VOLUME 10 1992 INDEX

- Protein of PVY Strain N (PVY<sup>N</sup>) in *Solanum tuberosum* CV, Bintje, Laurent Farinelli, Pia Malnoe, Gerald F. Collet (research)
- 1026 Light-Dependent, Covalent Immobilization of Biomolecules on "Inert" Surfaces, Hans Sigrist, Hui Gao, Bernhard Wegmuller (research)
- 1030 Oligonucleotide and Amplification Fingerprinting of Wild Species and Cultivars of Banana (*Musa* spp.), Dieter Kaemmer, Rownak Afza, Kurt Weising, Gunter Kahl, Frantisek J. Novak (research)
- 1036 Gene Transfer to Tumor-Infiltrating Lymphocytes and Other Mammalian Somatic Cells by Microprojectile Bombardment, Sandra Fitzpatrick-McElligott (research)
- 1044 Affinity Chromatography Products (product page)
- 1056 Food Biotechnology: Truth in Advertising, Marion Nestle (opinion)

## October

- 1063 Light and Verity, Douglas McCormick (opinion)
- 1067 Forbidden Substances and the Sporting Life: No Contest, Bernard Dixon (opinion)
- 1070 Patents and Clinicals for ALS, Christine Punzo (news)
- 1074 Analysts Assess Hope and Hype, Mimi Bluestone (news)
- 1078 Biotech Patents are Better, B.J. Spalding (news)
- 1078 Biotech's Best, B.J. Spalding (news)
- 1080 IG Labs Rules Genetic Testing, B.J. Spalding (news)
- 1082 The End of Monoclonal Patents?, Kevin J. McGough, Daniel P. Burke (news)
- 1084 Taking Stock, Jeffrey Casdin (news)
- 1084 MITI Ups Biotech R&D, Stuart M. Dambrot (news)
- 1086 AIDS Vaccines and Immunotherapy, R. Brandon Fradd (news)
- 1088 Reading Presidential Tea Leaves, Russ Hoyle (news)
- 1090 Transplanted Fish Cast Shadow, Jeffrey L. Fox (news)

- 1090 Mycogen Wins One, Loses One, Jennifer Van Brunt (news)
- 1093 Controlling Chirality in Enzymatic Synthesis, John Hodgson (article)
- 1099 New Horizons for Stem-Cell Bioreactors, Stephen M. Edgington (article)
- 1108 Europe's Emerging Biopharmaceutical Companies, Colin R. Clark, Fintan Walton (article)
- 1112 Cellular Engineering for the Treatment of Metabolic Disorders: Prospects for Therapy in Diabetes, Christopher B. Newgard (review)
- 1121 High Level Expression of a Chimeric Anti-Ganglioside GD2 Antibody: Genomic Kappa Sequences Improve Expression in COS and CHO Cells, Lynette A. Fouster, Stephen L. Swanberg, Bor-Yaw Lin, Mary Benedict, Kerry Kelleher, Dale A. Cumming, Gerald E. Riedel (research)
- 1128 Construction, Bacterial Expression and Characterization of a Bifunctional Single-Chain Antibody-Phosphatase Fusion Protein Targeted to the Human ERBB-2 Receptor, Winfried Wels, Ina-Maria Harwerth, Marcus Zwickl, Norman Hardman, Bernd Groner, Nancy E. Hynes (research)
- 1133 Characterization of RNA-Mediated Resistance to Tomato Spotted Wilt Virus in Transgenic Tobacco Plants, Peter de Haan, Jan J.L. Gielen, Marcel Prins, Ineke G. Wijkamp, Alie van Schepen, Dick Peters, Mart Q.J.M. van Grinsven, Rob Goldbach (research)
- 1138 High Level Expression of Streptokinase in *Escherichia coli*, M.P. Estrada, L. Hernandez, P. Rodriguez, R. Rubiera, G. Padron, J. de la Fuente, A. Perez, R. Serrano, A. Pedraza, W. Antuch, L. Herrera (research)
- 1143 Effect of Glycosylation on the Properties of Soluble Interferon Gamma Receptors Produced in Prokaryotic and Eukaryotic Expression Systems, Michael Fountoulakis, Reiner Gentz (research)

- 1148 Baculovirus Expression of Alkaline Phosphatase as a Reporter Gene for Evaluation of Production, Glycosylation and Secretion, T.R. Davis, K. Munkenbeck Trotter, R.R. Granados, H.A. Wood (research)
- 1151 Non-Neutralizing Monoclonal Antibodies Against RAS GTPase-Activating Protein: Production, Characterization, and Use in an Enzyme Immunoassay, P. Mollat, G.Y. Zhang, Y. Froberty, Y.H. Zhang, A. Fournier, J. Grassi, M.N. Thang (research)
- 1157 Research Assays and Diagnostic Kits (product page)
- 1176 Taking Care of Healthcare, William G. Rodway (opinion)
- 1182 How to Use the Buyer's Guide
- 1183 List of Product Headings and Subheadings
- 1186 Alphabetical Product Listing
- 1191 Antibodies and Antigens
- 1199 Bacterial and Cell Analysis
- 1201 Balances and Scales
- 1201 Biotechnology Industry Services
- 1204 Chromatography
- 1213 Clinical Diagnostics
- 1217 Computer Hardware and Software
- 1221 Electrophoresis
- 1225 Fermentors, Bioreactors, and Cell Culture
- 1230 General Molecular Biology
- 1238 Laboratory Animals and Animal Care
- 1238 Laboratory and Scientific Apparatus
- 1248 Labware
- 1252 Liquid Handling
- 1259 Microscopy and Optical Equipment
- 1262 Nuclear Instrumentation
- 1263 Recording Equipment, Electrical, and Electronic Equipment
- 1264 Spectroscopy
- 1269 Technical, Analytical, and Research Services
- 1376 Display Advertisers' Index and Buyers' Guide Fax Form

## November

- 1383 Rethinking First-to-Invent, Douglas McCormick (opinion)
- 1387 The Price of For-Profit-Only Science, Bernard Dixon (opinion)
- 1388 Applied Biosystems Merges, Christine Punzo (news)
- 1394 Pitfalls of Genetic Testing, Mimi Bluestone (news)
- 1394 Genetic Counselors Face Delicate Task, Mimi Bluestone (news)
- 1396 Ignorance About Genetic Testing, Mimi Bluestone (news)
- 1400 Accelerating Commercialization, B.J. Spalding (news)
- 1402 Controversy Rocks Celcor, B.J. Spalding (news)
- 1402 FDA Will Regulate Living-Cell Therapies, B.J. Spalding (news)
- 1403 Window Still Closing, B.J. Spalding (news)
- 1404 Taking an Insider's View, Peter F. Drake (news)
- 1406 Rifkin Resurgent, Russ Hoyle (news)
- 1408 NIHAC Okays More Gene Therapy, Jeffrey L. Fox (news)
- 1408 Gene Therapy Policy, Jeffrey L. Fox (news)
- 1409 Congress Okays FDA User Fees, Jeffrey L. Fox (news)
- 1410 PTO Nixes NIH's DNA Patents, Jeffrey L. Fox (news)
- 1413 Rites of Passage: Moving Biotech Proteins Through the ER, Stephen M. Edgington (article)
- 1421 Europe, Maastricht, and Biotechnology, John Hodgson (article)
- 1429 Approaching Hungarian Biotechnology, Cynthia K. Wagner, Dora Groo (article)
- 1433 Protein Engineers: Better than Nature, Faster than Evolution, John Hodgson (article)
- 1436 Emerging Strategies for Enhancing Crop Resistance to Microbial Pathogens, Christopher J. Lamb, John A. Ryals, Eric R. Ward, Richard A. Dixon (review)
- 1446 Controlled Antibody Delivery Systems, Jill K. Sherwood, Richard B. Dause, W. Mark Saltzman (research)

# VOLUME 10 1992 INDEX

- 1450 Rescuing Transgene Expression by Co-Integration, A.J. Clark, A. Cowper, R. Wallace, G. Wright, J.P. Simons (research)
- 1455 "Priming" of Recombinant Antibodies for Immunotherapy of Human Diseases: A Macaque/Human Chimeric Antibody Against Human CD4, Roland Newman, James Alberts, Darrell Anderson, Kristin Canner, Cheryl Heard, Frank Norton, Ron Raab, Mitchell Reff, Steve Shuey, Nabil Hanna (research)
- 1461 The Two Major Xylanases from *Trichoderma reesei*: Characterization of Both Enzymes and Genes, Anneli Torronen, Robert L. Mach, Robert Messner, Ramon Gonzalez, Nisse Kalkkinen, Anu Harkki, Christian P. Kubicek (research)
- 1466 Virus Resistant Papaya Plants Derived from Tissues Bombed with the Coat Protein Gene of Papaya Ringspot Virus, Maureen M.M. Fitch, Richard M. Manshardt, Dennis Gonsalves, Jerry L. Slightom, John C. Sanford (research)
- 1474 *Trypanosoma cruzi* Flagellar Repetitive Antigen Expression by Recombinant Baculovirus: Towards an Improved Diagnostic Reagent for Chagas' Disease, Claudia N. Duarte dos Santos, Marco A. Krieger, Elza Almeida, Juan J. Lafaille, Samuel Goldenberg, Ricardo Galler (research)
- 1478 Cell Markers and Imaging (product page)
- 1496 Getting to Know the Glycogen, John Hodgson (opinion)
- December**
- 1503 The Evolutionary Method, Douglas McCormick (opinion)
- 1509 ABCs of Science PR, Bernard Dixon (opinion)
- 1510 Lilly and Shaman Team Up, B.J. Spalding (news)
- 1514 A Clinton-Gore Take on Biotech, Jeffrey L. Fox (news)
- 1516 Trashing Pharmaceutical Firms, B.J. Spalding (news)
- 1517 Academic Research Is Better, B.J. Spalding (news)
- 1518 Weak Third Quarter, Denise Gilbert, Ph.D. (news)
- 1519 Joining Forces in DNA Analysis, B.J. Spalding (news)
- 1520 Winning the Tomato War, Russ Hoyle (news)
- 1521 AIDS-Vaccine Battle, Jeffrey L. Fox (news)
- 1522 Introducing Indust. Ecology, Joseph Alper (news)
- 1524 USDA Eases Field-Testing Rules, Jeffrey L. Fox (news)
- 1524 Meaningless Report?, Jeffrey L. Fox (news)
- 1525 European Patent Rules Emerge, John Hodgson (news)
- 1526 Danish Transgenics, Thomas Breck (news)
- 1529 Superfamily Structure and Biotech Drug Development, Stephen M. Edgington (article)
- 1535 Away from Home: U.S. Sites of European and Japanese Biotech R&D, Mark D. Dibner, Gregory N. Stock, Noel P. Gries (article)
- 1539 Cell Disruption: Breaking Up Is Hard To Do, Dick Foster (article)
- 1545 Biotechnology in an Uncommon Market, Chirinjeev Kathuri, Enrico T. Polastro, Nicholas Mellor (article)
- 1549 Making Peptides, John Mark Carter (book review)
- 1550 Recombinant Protein Expression in High Cell Density Fed-Batch Cultures of *E. coli*, L. Yee, H.W. Blanch (review)
- 1557 An Algorithmically Optimized Combinatorial Library Screened by Digital Imaging Spectroscopy, Ellen R. Goldman, Douglas C. Youvan (research)
- 1562 Comparison of Coat Protein-Mediated and Genetically Derived Resistance in Cucumbers to Infection by Cucumber Mosaic Virus Under Field Conditions with Natural Challenge Inoculations by Vectors, Dennis Gonsalves, Paula Chee, Rosario Providenti, Robert Seem, Jerry L. Slightom (research)
- 1572 Cell Culture of *Taxus* as a Source of the Antineoplastic Drug Taxol and Related Taxanes, Arthur G. Fett-Neto, Frank DiCosmo, W.F. Reynolds, Ko Sakata (research)
- 1576 Biological Oxidation of Hydrochlorofluorocarbons (HCFCs) by a Methanotrophic Bacterium, Mary F. DeFlaun, Burt D. Ensley, Robert J. Steffan (research)
- 1579 Hyperthermostable Variants of a Highly Thermostable Alpha-Amylase, Philippe Joyet, Nathalie Declerck, Claude Gaillardin (research)
- 1584 Solubilization and Activity of Proteins in Compressible-Fluid Based Microemulsions, Guadalupe Ayala, Sanjay V. Kamat, Claire Komives, Eric J. Beckman, Alan J. Russell (research)
- 1589 Fertile, Transgenic Oat Plants, David A. Somers, Howard W. Rines, Weining Gu, Heidi F. Kaeplier, William R. Bushnell (research)
- 1595 Chromatography Products (product page)
- 1608 Biotechnology in the Courtroom, Thomas H. Jenkins (opinion)
- 
- ## Author Index
- A**
- A.J.M de Schutter, Antoon, 422  
Abrams, D., 169  
Afeyan, Noubar B., 635  
Afza, Rownak, 1030  
Akerman, Karl, 565  
Alberts, James, 1455  
Allegrezza Jr., Anthony E., 182  
Almeida, Elza, 1474  
Alper, Joseph, 1522  
Alvarez-Moraes, Ariel, 905  
Anderson, Darrell, 1455  
Antuch, W., 1138  
Arantes, Olivia, 418  
Arentzen, Rene, 286  
Arkin, Adam P., 297  
Arntzen, Charles, 967  
Ayala, Guadalupe, 1584
- B**
- Bailey, James E., 435  
Bains, William, 515, 751, 757  
Barbieri, Luigi, 405  
Barton, John H., 104  
Battelli, Maria Giulia, 405  
Beachy, Roger, 967  
Bebington, C.R., 169  
Beckman, Eric J., 1584  
Benedict, Mary, 1121  
Bennett, George N., 190  
Bialy, Harvey, 249, 630  
Biernz-Tadmor, Brigitta, 521  
Bimm, Richard A., 315  
Blanch, H.W., 1550  
Bluestone, Mimi, 122, 132, 236, 246, 368, 369, 478, 480, 732, 842,
- 946, 1074, 1394, 1396  
Blum, Barbara, 910  
Blum, Paul, 301  
Bonne, Els, 309  
Bono, Angiola, 253, 254, 494, 633  
Borrebaek, Carl A.K., 697  
Bossut, Martien, 309  
Bosveld, Jaap, 873  
Boterman Johan, 309  
Bourell, James H., 163  
Bradley, Allan, 534  
Brandmeier, Birgit, 900  
Breck, Thomas, 628, 630, 1526  
Breuning, George, 967  
Brinkmann, Ulrich, 682  
Brumley, Robert L., Jr., 78  
Buchner, Johannes, 682  
Builder, Stuart E., 182, 1013  
Burke, Daniel P., 1082  
Burrill, G. Steven, 647  
Burrone, Oscar, 805  
Bushnell, William R., 1589  
Butler, Declan, 959  
Bye, Jacqueline M., 779
- C**
- Carlson, James D., 86  
Carlson, John E., 686  
Carmer, Kristin, 1455  
Carozzi, Nadine, 540  
Carter, D.B., 679  
Carter, John Mark, 509, 1549  
Carter, Paul, 163  
Carver, Monique, 163  
Casdin, Jeffrey, 364, 738, 1084  
Castillo, Ana M., 667  
Chang, Judy Y., 1013  
Charles, I.G., 888  
Chatfield, S.N., 888

# /VOLUME 10 1992 INDEX

Chaufaux, Josette, 418

Chee, Paula, 1562

Cheng, Seng H., 74

Chimera, Kinase, 430

Chrusciel, R. A., 773

Chu, Valeria, 66

Clackson, Tim P., 779

Clark, A.J., 1450

Clark, Colin R., 1108

Cleland, Jeffrey L., 1013

Cockburn, Bill, 790

Cohen, Simon, 956

Cohn, Zanvil A., 157

Colaco, Camilo, 1007

Collet, Gerald F., 1020

Collins, G. B., 675

Collins, John, 910

Conneely, Orla M., 784

Cook, Michael, 772

Cornelissen, Ben J.C., 422

Covarrubias, Michael, 163

Cowper, A., 1450

Crooke, Stanley T., 882

Cuevas, Pedro, 795

Cullum, John, 570

Cumming, Dale A., 1121

## D

D'Halluin, Kathleen, 309

Dambrot, Stuart M., 129, 254, 370,

495, 632, 744, 952, 1084

Danielsson, Lena, 697

Dart, Ed, 141

Dause, Richard B., 1446

Davis, Ann, 534

Davis, T.R., 1148

De Francesco, Laura, 967

de Haan, Peter, 1133

de la Fuente, J., 1138

de la Fuente-Martinez, Juan

Manuel, 905

De Luca, Leonardo, 805

Deal, Carolyn, 509

Deanda, Kristine, 894

Declerk, Nathalie, 1579

Deflaun, Mary F., 1576

Dibner, Mark D., 528, 928, 1535

DiCerbo, Patricia A., 521

DiCosmo, Frank, 1572

Dileo, Anthony J., 182

Dincher, Sandra, 540

DiTullio, Paul, 74

Dixon, Bernard, 7, 111, 124, 128,

223, 343, 471, 607, 719, 833, 939,

1067, 1387, 1509

Dixon, Richard A., 1436

Dollinger, Gavin, 413

Domdey, Horst, 910

dos Santos, Claudia N. Duarte,

1474

Dougan, G., 888

Drake, Peter F., 1404

Drossman, Howard, 78

Du Cros, Michael, 712

Duke, Mairead, 784

## E

Ebert, Karl M., 74

Edgington, Stephen M., 24, 137,

152, 256, 269, 369, 374, 376, 383,

502, 617, 641, 763, 768, 855, 981,

1099, 1413, 1529, 1993

Eirich, L. Dudley, 894

Ensley, Burt D., 1576

Estrada, M.P., 1138

## F

Fairweather, N.F., 888

Farinelli, Laurent, 1020

Feitelson, Jerald S., 271

Fenton, Dennis, 435

Fett-Neto, Arthur G., 1572

Fieschko, John, 435

Fischer, Robert L., 561

Fitch, Maureen M.M., 1466

Fitzpatrick-McElligott, Sandra,

286, 1036

Flavell, Richard B., 141

Fletcher, Garth L., 176

Flett, Fiona, 570

Foster, Dick, 1539

Fountoulakis, Michael, 1143

Fournier, A., 1151

Fouser, Lynette A., 1121

Fox, Gary M., 435

Fox, Jeffrey L., 10, 15, 17, 120,

121, 230, 243, 244, 358, 360, 492,

624, 625, 626, 740, 744, 840, 847,

960, 962, 1090, 1408, 1409, 1410,

1514, 1521, 1524

Fradd, R. Brandon, 488, 1086

Fraley, Robert T., 40, 141

Frasch, Alberto C.C., 805

Friedrich, Leslie, 540

Frobert, Y., 1151

Fromm, Michael E., 667

Fuchs, Roy L., 141

Fulton, Scott P., 635

Furebring, Christina, 697

## G

Gaillardin, Claude, 1579

Gale, W., 679

Galler, Ricardo, 1474

Gandecha, Atul, 790

Gao, Hui, 1026

Garcia, Jose L., 795

Gasson, Michael J., 196

Geisow, Mike, 277

Gentz, Reiner, 1143

Georgiou, George, 60

Giambiagi, Susana, 805

Gielen, Jan J.L., 1133

Gilbert, Denise, 242, 623, 954,

1518

Gimenez-Gallego, Guillermo, 795

Giovannoni, James, 561

Glaubitz, Jeffrey C., 686

Goldbach, Rob, 1133

Goldenberg, Samuel, 1474

Goldman, Ellen R., 1557

Gong, Zhiyuan, 176

Gonsalves, Dennis, 1466, 1562

Gonzalez, Ramon, 1461

Gordon, Neal F., 635

Granados, R.R., 1148

Granzow, Russ, 390

Grassi, J., 1151

Grayburn, W.S., 675

Greene, Mark I., 773

Gregory, Richard J., 74

Gries, Noel P., 1535

Griffith, Robert, 413

Griffiths, Andrew D., 779

Griffiths, Bryan, 30

Groner, Bernd, 1128

Groo, Dora, 1429

Gu, Weining, 1589

## K

Kado-Fong, Helen, 550

Kaemmer, Dieter, 1030

Kaeppler, Heidi F., 1589

Kahl, Gunter, 1030

Kahn, Michael, 773

Kaiser, Peter, 570

Kalkkinen, Nisse, 1461

Kamat, Sanjay V., 1584

Kaplan, Gill, 157

Karp, Matti, 565

Kathuri, Chirinjeev, 1545

Kelleher, Kerry, 1121

Kelley, Robert F., 163

Kelly, Patrick D., 52

Kessmann, Helmut, 540

Kikuchi, Masako, 430

Kim, Leo, 271

Kim, Rosalind, 561

Kim, Sung-Hou, 561

King, D., 169

King, Madonna J., 176

Kiss, Gyula, 686

Klauser, Thomas, 799

Klein, Theodore M., 286

Knowles, Jonathan K. C., 82

Kochan, Jarema P., 550

Koekema, Andre, 292

Komives, Claire, 1584

Kostichka, Anthony J., 78

Kotts, Claire E., 163

Krieger, Marco A., 1474

Kubicek, Christian P., 1461

Kumar, Vijay, 82

Kurnit, David M., 36

Kuttler, Elke, 799

Kuusisto, Ari, 65

## L

Lafaille, Juan J., 1474

Lago, William, 557

Lamb, Christopher J., 1436

Lanning, Dawn, 894

Lappi, Douglas A., 405

Lasagna, Louis, 521, 660

Lee, Jaime, 509

Lee, Ted, 66

Leemans, Jan, 309

Lennon, D.J., 679

Lereclus, Dider, 418

Lewis, Paul A., 286

Lin, Bor-Yaw, 1121

Lin, Norman, 301

Lin, Sung-Chy, 60

Lindqvist, Christer, 565

Lo, Jing-Y., 784

Logan, John S., 557

Logemann, J., 305

Lyon, Jeff, 509

Lyons, David, 435

## M

Mach, Robert L., 1461

MacLean, T. A., 600

Maeda, Kayo, 900

Makoff, A.J., 888

Malmborg, Ann-Christin, 697

Malmqvist, Magnus, 779

Malnoe, Pia, 1020

Mancardi, Sabrina, 805

Manshardt, Richard M., 1466

# VOLUME 10 1992 INDEX

Marchbanks, Michael L., 78

Mariani, Massimo, 391

Marks, James D., 779

Marshall, John, 74

Martin, Michael J., 557

Matin, Abdul, 301

May, Gregory S., 784

Mazur, Barbara, 309

McCormick, Douglas S., 109, 126, 221, 341, 469, 605, 717, 829, 935,

963, 1063, 1383, 1503

McGough, Kevin J., 1082

Meade, Harry M., 74

Medynski, Dan, 1002

Mellor, Nicholas, 1545

Mermelstein, Lee D., 190

Messner, Robert, 1461

Metzebaum, Howard M., 464

Michaelsson, Anne, 697

Middleton, Al, 281

Mielenz, Jonathan, 894

Miller, Henry L., 147

Miller, Lois K., 545

Mitschelen, Jon, 66

Molendijk, Luch, 292

Mollat, P., 1151

Mosqueda-Cano, Gilberto, 905

Moss, Gary, 956

Mundy, J., 305

Munoz-Willery, Isabel, 795

## N

Nagel, Jutta, 691

Nester, Eugene, 967

Nestle, Marion, 1056

Nettleton, Mignon Y., 550

Newgard, Christopher B., 1112

Newman, Jack, 66

Newman, Roland, 1455

Ngo, D.M., 679

Nishimura, Hajime, 430

Nordstrom, Kurt, 661

Norton, Frank, 1455

Novak, Frantisek J., 1030

## S

O'Donnell, J. Kevin, 557

Ohiin, Mats, 697

Oker-Blom, Christian, 565

Ortega, Sagario, 795

Osusky, Martin, 691

Owen, Meran, 790

Oxer, M.D., 888

## P

Padron, G., 1138

Papoutsakis, Eleftherios T., 190

Parsons, Cynthia T., 557

Pastan, Ira, 682

Payne, Jewel, 271

Pedraza, A., 1138

Pen, Jan, 292

Penarrubia, Lola, 561

Perez, A., 1138

Peters, Dick, 894, 1133

Pickard, D., 888

Pilder, Stephen, 557

Pinder, Stephen, 1007

Pinkert, Carl A., 557

Pohlner, Johannes, 799

Polastro, Enrico T., 1545

Pollevick, Guido D., 805

Potrykus, Ingo, 691

Potter, Ray, 127

Pramer, David, 44

Prins, Marcel, 1133

Prior, Christopher, 66

Provvidenti, Rosario, 1562

Punzo, Christine, 10, 112, 224, 344, 472, 609, 721, 835, 940, 963, 1070, 1388

## Q

Qualset, Calvin, 967

Quax, Wim J., 292

## R

Raab, Ron, 1455

Ramakrishnan, Sundaram, 82

Rambaud, Sophie, 418

Ramirez-Solis, Ramiro, 534

Ramjesingh, M., 442

Reed, Robert, 390

Reff, Mitchell, 1455

Reis, Ulrich, 910

Renner, G., 169

Reynolds, Robert, 894

Reynolds, W.F., 1572

Ricca, George, 66

Riedel, Gerald E., 1121

Rietveld, Krijn, 292

Rinas, Ursula, 435

Rines, Howard W., 1589

Roberts, Wendy J., 647

Rodrigues, Maria L., 163

Rodriguez, P., 1138

Rodway, William G., 1176

Rohrer, Tracy, 894

Roser, Bruce, 1007

Rothstein, A., 442

Rowland, Ann M., 163

Rubiera, R., 1138

Russell, Alan J., 1584

Ryals, John A., 540, 1436

Sakata, Ko, 1572

Saltzman, W. Mark, 1446

Sanford, John C., 1466

Saragovi, H. Uri, 773

Saviranta, Petri, 565

Sax, Phillip, 870

Scallion, Bernard J., 550

Schell, J., 305

Schmeichel, Cynthia J., 264

Schulhof, Julia, 378

Schumann, Renate, 900

Schwartz, Richard A., 528

Seeburg, P.H., 679

Seem, Robert, 1562

Sen, Shevanti, 1007

Serrano, R., 1138

Shahidi, Ahmad J., 635

Shami, E.Y., 442

Sharma, Mukul M., 60

Shearman, Claire A., 196

Shears, Margaret A., 176

Shepard, Michael H., 163

Sherwood, Jill K., 1446

Shriver, Bruce, Jr., 354, 497, 728

Shuey, Steve, 1455

Sigrist, Hans, 1026

Sijmons, Peter C., 292

Simons, J.P., 1450

Slater, D., 888

Slightom, Jerry L., 1466, 1562

Smith, Alan E., 74

Smith, Dennis P., 315

Smith, Kendall A., 157

Smith, Lloyd M., 78

Smith, M.W., 679

Snedcor, Brad, 163

Sofer, Gail, 870

Somers, David A., 1584

Soria, Marco, 405

Spalding, B.J., 24, 118, 124, 234,

238, 240, 354, 362, 370, 481, 484,

497, 498, 616, 620, 622, 728, 734,

736, 842, 843, 850, 950, 951, 1078,

1080, 1400, 1402, 1403, 1510,

1516, 1517, 1519

Spanenberg, German, 691

Spelman, Janie, 870

Stearns, George, 435

Steffan, Robert J., 1576

Stirpe, Fiorenzo, 405

Stock, Gregory N., 1535

Stolte, Ton, 422

Swanberg, Stephen L., 1121

Swanson, Mark E., 557

Swartz, James R., 1013

T

Tadmor, Gilead, 521

Takamizo, Tadashi, 691

Tarditi, Laura, 391

Tarr, Criss, 66

Tayhardt, Adolfo R., 402

Teeri, Tuula T., 82

Thang, M.N., 1151

Thangavelu, Madan, 1007

Thomsen, D.R., 679

Thomson, S., 169

Tomalski, Michael D., 545

Tommerup, H., 305

Torronen, Anneli, 1461

Trotter, K. Munkenbeck, 1148

Tsai, Larry B., 435

Tulsieram, Lomas K., 686

## U

Ueda, Hiroshi, 430

Ugalde, Rodolfo A., 805

Uhlir, Bernt Eric, 661

Uwechue, Ifeanyi, 363

## V

Vallade, Myriam, 418

Van Brunt, Jennifer, 378, 745, 748,

852, 956, 1090

van der Kwaak, Rene, 873

van Grinsven, Mart Q.J.M., 1133

van Schepen, Alie, 1133

Van Albert, Steve, 509

Vandaele, William, 148

Varela, Javier, 795

Vasil, Indra K., 667

Vasil, Vimla, 667

Velligan, Mark D., 163, 301

Vidaver, Anne, 967

von Specht, Bernd-Ulrich, 910

## W

Wagner, Cynthia K., 529, 1429

Wagner, Jack F., 315

Wallace, R., 1450

Walsh, P. Sean, 413

Walton, Fintan, 1108

Wang, Daniel L.C., 1013

Wang, Zeng-yu, 691

Ward, Eric R., 540, 1436

Ward, Mike, 952

Ward, Pauline P., 784

Ward, Sally, 697

Webber, David, 846

Wegmuller, Bernhard, 1026

Weinberg, Sanford, 870

Weising, Kurt, 1030

Welker, Neil E., 190

Wels, Winfried, 1128

Whitelam, Garry, 790

Wiesmuller, Lisa, 900

Wijkamp, Ineke G., 1133

Williams, Sherica, 540

Windisch, Vincent, 66

Winkler, Marjorie, 1013

Winter, Greg, 779

Wittinghofer, Alfred, 900

Wolber, Vera, 900

Wong, Wai Lee T., 163

Wood, H.A., 1148

Wright, G., 1450

## Y

Yagi, Shintaro, 430

Yang, Maria, 163

Yarmush, Martin L., 86

Yarranton, G.T., 169

Yee, L., 1550

Youvan, Douglas C., 294, 1557

## Z

Zazo, Mercedes, 795

Zhang, G.Y., 1151

Zhang, Y.H., 1151

Zilinskas, Raymond A., 402

Zwickl, Marcus, 1128

Zywulko, M., 442

## See This Month's Conference Classifieds

For information on upcoming meetings, including:

The Fifth

PaineWebber Bio/

Technology

Conference

May 5-7, 1993

Hyatt Regency La Jolla at Aventine, La Jolla, CA

For more information: P.O. Box 533, New York, NY

10185-0005. Fax: 212-

713-1053.